### Claims

What is claimed is:

## 5 1. A compound of formula I:

or a pharmaceutically acceptable salt thereof wherein:

10 A is O,

NH, or

S;

B is

15  $C(=O)R_1$ ,

 $C(=S)R_1$ ,

heterocylco,

heteroaryl,

C(=O)-heterocyclo, or

20 C(=O)-heteteroaryl;

D is N, E is C, F is CH, and "-----" is a bond, or D is CH, E is N, F is CH<sub>2</sub>, and "-----" is absent;

attachment; and

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is 5-membered heterocyclo or heteroaryl, wherein ""ow" indicates points of attachment, and wherein the 5-membered heterocyclo or heteroaryl is optionally substituted with one or more group selected from aryl, heteroaryl, heterocyclo, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NR<sub>5</sub>, N(C=O)R<sub>5</sub>, NH(C=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>, aryl, heteroaryl, heterocyclo, wherein aryl or heteroaryl is optionally substituted with one or more halo, OH, CF<sub>3</sub>, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>4</sub>)alkyl, C(=O)R<sub>1</sub>, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NHR<sub>5</sub>, N(C=O)R<sub>5</sub>,

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V and W independently are CH or N when "-----"is absent; or are C when "-----" is a bond;

X, Y, Z independently are O=C,

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 $CH_2$ ,

CHR<sub>3</sub>,

NH(C=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>;

CHR<sub>4</sub>,

 $CR_3R_4$ ,

NR<sub>5</sub>,

 $N(C=O)R_5$ ,  $N(C=O)OR_5$ NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, 5 O, S, SO, or SO<sub>2</sub>, provided that at least one of X, Y, or Z is NR<sub>5</sub>, 10  $N(C=O)R_5$ ,  $N(C=O)OR_5$ , NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, Ο, 15 S, SO, or SO<sub>2</sub>; J, K, Q independently are CR2 or N, with the proviso that when any one of J, K, or Q is N, then the other two are CR2; 20 R<sub>1</sub> is H,  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 25 O— $(C_1$ - $C_4$ )alkyl, O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$  alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,  $NH_2$ , 30 NH(C<sub>1</sub>-C<sub>4</sub>)alkyl,  $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl;

# R<sub>2</sub> is H, halo, $(C_1-C_8)$ alkyl, 5 (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$ alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 10 $NH_2$ , NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; 15 R<sub>3</sub> and R<sub>4</sub> independently are halo, $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, O-(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 20 S— $(C_1-C_4)$ alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, $NH_2$ , NH(C<sub>1</sub>-C<sub>4</sub>)alkyl, $N((C_1-C_4)alkyl)_2$ , NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; 25 aryl, (CH<sub>2</sub>)<sub>n</sub>-aryl, heterocyclo, (CH<sub>2</sub>)<sub>n</sub>-heterocyclo, 30 heteroaryl, or (CH<sub>2</sub>)<sub>n</sub>-heteroaryl;

wherein n is 0, 1, 2, or 3;

# R<sub>5</sub> is H,

 $(C_1-C_8)$ alkyl,

(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,

5 aryl,

 $(CH_2)_n$ -aryl,

heterocyclo,

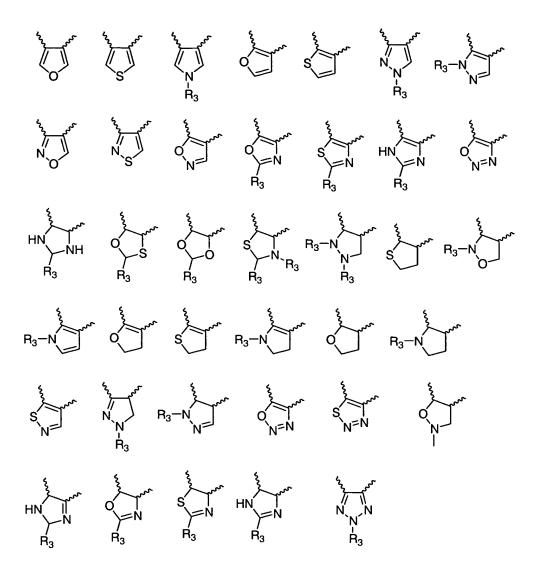
(CH<sub>2</sub>)<sub>n</sub>-heterocyclo,

heteroaryl, or

10  $(CH_2)_n$ -heteroaryl;

wherein n is as defined above.

2. The compound of claim 1, wherein het



3. The compound of claim 1 as designated in formula IA.

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4. The compound of claim 1 as designated in formula IB.

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5. The compound of claim 1 as designated in formula IC.

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6. The compound of claim 5, wherein P is

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7. The compound of claim 6, wherein P is

wherein  $J_a$  is N or  $CR_{10}$ , wherein  $R_{10}$  is H or F.and wherein only one or two of X, Y, or Z is  $NR_5$ ,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ ,  $NSO_2NR_5$ , O, S, SO, or  $SO_2$ .

## 8. A compound of formula II

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or a pharmaceutically acceptable salt thereof wherein:

 $B \text{ is} \\ C(=O)R_1, \\ C(=S)R_1, \\ \text{heterocylco,} \\ \text{heteroaryl,} \\$ 

C(=O)-heterocyclo, or C(=O)-heteroaryl;

D is N, E is C, F is CH, and "----" is a bond, or D is CH, E is

N, F is CH<sub>2</sub>, and "----" is absent;

is 5-membered heterocyclo or heteroaryl, wherein ""ow" indicates points of attachment, and wherein the 5-membered heterocyclo or heteroaryl is optionally substituted with one or more group selected from aryl, heteroaryl, heterocyclo, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NR<sub>5</sub>, N(C=O)R<sub>5</sub>, NH(C=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>, aryl, heteroaryl, heterocyclo, wherein aryl or heteroaryl is optionally substituted with one or more halo, OH, CF<sub>3</sub>, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>4</sub>)alkyl, C(=O)R<sub>1</sub>, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NHR<sub>5</sub>, N(C=O)R<sub>5</sub>, NHC(=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>;

V and W independently are CH or N when "-----"is absent; or are C when "-----" is a bond;

20 X, Y, Z independently are O=C,  $CH_2$ ,  $CHR_3$ ,  $CHR_4$ ,  $CR_3R_4$ ,  $CR_3R_4$ ,  $NR_5$ ,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ ,

NSO<sub>2</sub>NR<sub>5</sub>,

30 O,

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S, SO, or SO<sub>2</sub>, provided that at least one of X, Y, or Z is NR<sub>5</sub>, 5  $N(C=O)R_5$ ,  $N(C=O)OR_5$  $NSO_2R_5$ , NSO<sub>2</sub>NR<sub>5</sub>, O, 10 S, SO, or SO<sub>2</sub>; J, K, Q independently are CR<sub>2</sub> or N, with the proviso that when any 15 one of J, K, or Q is N, then the other two are CR2; R<sub>1</sub> is H,  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 20 O— $(C_1$ - $C_4$ )alkyl, O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$  alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, NH<sub>2</sub>, 25 NH(C<sub>1</sub>-C<sub>4</sub>)alkyl,  $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; R<sub>2</sub> is H, 30 halo,  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,

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O—(C_1-C_4)alkyl,
                                           O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                           S—(C_1-C_4) alkyl,
                                           S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
 5
                                           NH_2
                                           NH(C<sub>1</sub>-C<sub>4</sub>)alkyl,
                                           N((C_1-C_4)alkyl)_2, or
                                           NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl;
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                                R<sub>3</sub> and R<sub>4</sub> independently are halo,
                                            (C_1-C_8)alkyl,
                                            (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                            O—(C_1-C_4)alkyl,
                                           O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
15
                                            S—(C_1-C_4) alkyl,
                                           S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                            NH<sub>2</sub>,
                                            NH(C_1-C_4)alkyl,
                                            N((C_1-C_4)alkyl)_2,
20
                                            NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl;
                                            aryl,
                                            (CH_2)_n-aryl,
                                            heterocyclo,
                                            (CH<sub>2</sub>)<sub>n</sub>-heterocyclo,
25
                                            heteroaryl, or
                                            (CH<sub>2</sub>)<sub>n</sub>-heteroaryl;
                                wherein n is 0, 1, 2, or 3;
                                R<sub>5</sub> is H,
30
                                            (C<sub>1</sub>-C<sub>8</sub>)alkyl,
                                            (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                            aryl,
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 $(CH_2)_n$ -aryl,

heterocyclo,

(CH<sub>2</sub>)<sub>n</sub>-heterocyclo,

heteroaryl, or

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(CH<sub>2</sub>)<sub>n</sub>-heteroaryl;

wherein n is as defined above.

- 9. The compound of claim 9, wherein is as defined in claim 2.
- 10 10. The compound of claim 9as designated in formula IIA.

11. The compound of claim 9 as designated in formula IIB.

12. The compound of claim 9 as designated in formula IIC.

## 13. The compound of claim 9 as designated in formula IID

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wherein  $J_a$  is N or  $CR_{10}$ , wherein  $R_{10}$  is H or F.and wherein only one or two of X, Y, or Z is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

14. The compound of claim 9 as designated in formula IIE, wherein only one or two of X, Y, or Z is  $NR_5$ ,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ ,  $NSO_2NR_5$ , O, S, SO, or  $SO_2$ .

15. The compound of claim 9 as designated in formula IIF, wherein  $X_a$  is  $NR_5$ ,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ ,  $NSO_2NR_5$ , O, S, SO, or  $SO_2$ .

5

16. The compound of claim 9 as designated in formula IIG, wherein  $Y_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>...

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17. The compound of claim 9 as designated in formula IIH, wherein  $Z_a$  is  $NR_5$ ,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ ,  $NSO_2NR_5$ , O, S, SO, or  $SO_2$ .

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18. A compound of formula III

or a pharmaceutically acceptable salt thereof wherein:

5 A is O,

NH, or

S;

B is

10  $C(=O)R_1$ ,

 $C(=S)R_1$ ,

heterocylco,

heteroaryl,

C(=O)-heterocyclo, or

C(=O)-heteteroaryl;

D is N, E is C, F is CH, and "-----" is a bond, or D is CH, E is N, F is CH<sub>2</sub>, and "-----" is absent;

20

15

is 5-membered heterocyclo or heteroaryl, wherein "ow" indicates points of attachment, and wherein the 5-membered heterocyclo or heteroaryl is optionally substituted with one or more group selected from aryl, heteroaryl, heterocyclo, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NR<sub>5</sub>, N(C=O)R<sub>5</sub>, NH(C=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>, aryl, heteroaryl, heterocyclo, wherein aryl or heteroaryl is optionally substituted with one

heterocyclo, wherein aryl or heteroaryl is optionally substituted with one or more halo, OH, CF<sub>3</sub>, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>8</sub>)alkyl, S(C<sub>1</sub>

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\label{eq:c4} C_4) alkyl, \ C(=O)R_1, OR_5, OC(=O)R_1, NR_6R_7, NHR_5, N(C=O)R_5, \\ NH(C=O)OR_5, NHSO_2R_5, NHSO_2NR_5;
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V and W independently are CH or N when "-----"is absent; or 5 are C when "-----" is a bond; X, Y, Z independently are O=C, CH<sub>2</sub>, CHR<sub>3</sub>, 10 CHR<sub>4</sub>,  $CR_3R_4$ , NR<sub>5</sub>,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ , 15  $NSO_2R_5$ , NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or 20 SO<sub>2</sub>, provided that at least one of X, Y, or Z is NR<sub>5</sub>,  $N(C=O)R_5$  $N(C=O)OR_5$ ,  $NSO_2R_5$ , 25 NSO<sub>2</sub>NR<sub>5</sub>, Ο, S, SO, or SO<sub>2</sub>; 30

J, K, Q independently are CR<sub>2</sub> or N, with the proviso that when any

one of J, K, or Q is N, then the other two are CR2;

# R<sub>1</sub> is H, $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, 5 O-(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$ alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, NH<sub>2</sub>, 10 $NH(C_1-C_4)alkyl$ , $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; R<sub>2</sub> is H, 15 halo, $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$ alkyl, 20 S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, $NH_2$ , $NH(C_1-C_4)$ alkyl, $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; 25 R<sub>3</sub> and R<sub>4</sub> independently are halo, $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 30 $O-(C_1-C_4)$ alkyl, O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, $S-(C_1-C_4)$ alkyl,

S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,

 $NH_2$ ,  $NH(C_1-C_4)alkyl,$  $N((C_1-C_4)alkyl)_2$ , 5 NH— $(C_3-C_6)$ cycloalkyl; aryl, (CH<sub>2</sub>)<sub>n</sub>-aryl, heterocyclo, (CH<sub>2</sub>)<sub>n</sub>-heterocyclo, 10 heteroaryl, or  $(CH_2)_n$ -heteroaryl; wherein n is 0, 1, 2, or 3; R<sub>5</sub> is H, 15 (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, aryl,  $(CH_2)_n$ -aryl, heterocyclo, 20 (CH<sub>2</sub>)<sub>n</sub>-heterocyclo, heteroaryl, or (CH<sub>2</sub>)<sub>n</sub>-heteroaryl; wherein n is as defined above. The compound of claim 18, wherein 25 19. is as defined in claim 2.

20. The compound of claim 18 as designated in formula IIIA.

21. The compound of claim 19 as designated in formula IIIB.

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22. The compound of claim 19 as designated in formula IIIC.

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23. The compound of claim 19 as designated in formula IIID

IIID

wherein  $J_a$  is N or  $CR_{10}$ , wherein  $R_{10}$  is H or F.and wherein only one or two of X, Y, or Z is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

5 24. The compound of claim 19 as designated in formula IIE, wherein only one or two of X, Y, or Z is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

IIIE

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25. The compound of claim 19 as designated in formula IIIF, wherein  $X_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>...

IIIF

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26. The compound of claim 19 as designated in formula IIIG, wherein  $Y_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

27. The compound of claim 19 as designated in formula IIIH, wherein  $Z_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

ШН

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28. A compound of formula IV:

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or a pharmaceutically acceptable salt thereof wherein:

A is O,

NH, or

S;

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B is

 $C(=O)R_1$ ,

 $C(=S)R_1$ ,

heterocylco,

20 heteroaryl,

C(=O)-heterocyclo, or

C(=O)-heteteroaryl;

D is N, E is C, F is CH, and "----" is a bond, or D is CH, E is N, F is CH<sub>2</sub>, and "-----" is absent;

ν÷w<sup>™</sup> (het)

is 5-membered heterocyclo or heteroaryl, wherein

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"indicates points of attachment, and wherein the 5-membered heterocyclo or heteroaryl is optionally substituted with one or more group selected from aryl, heteroaryl, heterocyclo, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NR<sub>5</sub>, N(C=O)R<sub>5</sub>, NH(C=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>, aryl, heteroaryl, heterocyclo, wherein aryl or heteroaryl is optionally substituted with one or more halo, OH, CF<sub>3</sub>, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>4</sub>)alkyl, C(=O)R<sub>1</sub>, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NHR<sub>5</sub>, N(C=O)R<sub>5</sub>, NHC(=O)OR<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>;

V and W independently are CH or N when "-----"is absent; or are C when "-----" is a bond;

X, Y, Z independently are O=C,

 $CH_2$ ,

CHR<sub>3</sub>,

20

CHR<sub>4</sub>,

 $CR_3R_4$ 

NR<sub>5</sub>,

 $N(C=O)R_5$ 

 $N(C=O)OR_5$ ,

25

 $NSO_2R_5$ ,

NSO<sub>2</sub>NR<sub>5</sub>,

Ο,

S,

SO, or

30

 $SO_2$ ,

provided that at least one of X, Y, or Z is NR<sub>5</sub>,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ , 5 NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>; 10 J, K, Q independently are CR2 or N, with the proviso that when any one of J, K, or Q is N, then the other two are CR2; R<sub>1</sub> is H, 15  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$  alkyl, 20 S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,  $NH_2$  $NH(C_1-C_4)$ alkyl,  $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; 25 R<sub>2</sub> is H, halo,  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 30 O— $(C_1$ - $C_4$ )alkyl, O-(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,

S— $(C_1-C_4)$  alkyl,

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S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                            NH_2,
                                            NH(C_1-C_4)alkyl,
                                            N((C_1-C_4)alkyl)_2, or
 5
                                            NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl;
                                 R<sub>3</sub> and R<sub>4</sub> independently are halo,
                                             (C_1-C_8)alkyl,
                                            (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
10
                                            O—(C_1-C_4)alkyl,
                                             O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                             S—(C_1-C_4) alkyl,
                                             S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                             NH_2
15
                                             NH(C<sub>1</sub>-C<sub>4</sub>)alkyl,
                                             N((C_1-C_4)alkyl)_2,
                                             NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl;
                                             aryl,
                                             (CH<sub>2</sub>)<sub>n</sub>-aryl,
20
                                             heterocyclo,
                                             (CH<sub>2</sub>)<sub>n</sub>-heterocyclo,
                                             heteroaryl, or
                                             (CH<sub>2</sub>)<sub>n</sub>-heteroaryl;
                                 wherein n is 0, 1, 2, or 3;
25
                                 R<sub>5</sub> is H,
                                             (C_1-C_8)alkyl,
                                              (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
                                              aryl,
30
                                              (CH<sub>2</sub>)<sub>n</sub>-aryl,
                                              heterocyclo,
                                              (CH<sub>2</sub>)<sub>n</sub>-heterocyclo,
```

## heteroaryl, or

## (CH<sub>2</sub>)<sub>n</sub>-heteroaryl;

### wherein n is as defined above.

- 5 29. The compound of claim 28, wherein
- het is as defined in claim 2.
- 30. The compound of claim 28 as designated in formula IVA.

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31. The compound of claim 28 as designated in formula IVB.

**IVB** 

15 32. The compound of claim 28 as designated in formula IVC.

IVC

#### 33. The compound of claim 28 as designated in formula IVD

- wherein  $J_a$  is N or  $CR_{10}$ , wherein  $R_{10}$  is H or F.and wherein only one or two of X, Y, or Z is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.
- 34. The compound of claim 28 as designated in formula IVE, wherein only one or two of X, Y, or Z is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

**IVE** 

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wherein  $R_8$  and  $R_9$  are each independently H; halo,  $(C_1-C_8)$ alkyl,  $(C_3-C_6)$ cycloalkyl, O— $(C_1-C_4)$  alkyl, S— $(C_1-C_4)$  alkyl, aryl,  $(CH_2)_n$ -aryl, heterocyclo,  $(CH_2)_n$ -heterocyclo, heteroaryl, or  $(CH_2)_n$ -heteroaryl, wherein n is 0, 1, 2, or 3; or taken together  $R_8$  and  $R_9$  are bonded to the same C and form C=O.

20

35. The compound of claim 28 as designated in formula IVF, wherein  $X_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>...

- 36. The compound of claim 28 as designated in formula IVG, wherein  $Y_a$  is
- $5 \qquad NR_5, \, N(C = O)R_5, \, N(C = O)OR_5, \, NSO_2R_5, \, NSO_2NR_5, \, O, \, S, \, SO, \, or \, \, SO_2.$

**IVG** 

37. The compound of claim 28 as designated in formula IVH, wherein  $Z_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

IVH

38. A compound of formula V:

or a pharmaceutically acceptable salt thereof wherein:

A is O,

NH, or

S;

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B is

 $C(=O)R_1$ ,

 $C(=S)R_1$ ,

heterocylco,

heteroaryl,

C(=O)-heterocyclo, or

C(=O)-heteteroaryl;

D is N, E is C, F is CH, and "----" is a bond, or D is CH, E is
N, F is CH<sub>2</sub>, and "-----" is absent;

is 5-membered heterocyclo or heteroaryl, wherein "" indicates points of attachment, and wherein the 5-membered heterocyclo or heteroaryl is optionally substituted with one or more group selected from aryl, heteroaryl, heterocyclo, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NR<sub>5</sub>, N(C=O)R<sub>5</sub>, NH(C=O)OR<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>, aryl, heteroaryl, heterocyclo, wherein aryl or heteroaryl is optionally substituted with one or more halo, OH, CF<sub>3</sub>, CN, NO<sub>2</sub>, (C<sub>1</sub>-C<sub>8</sub>)alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S(C<sub>1</sub>-C<sub>4</sub>)alkyl, C(=O)R<sub>1</sub>, OR<sub>5</sub>, OC(=O)R<sub>1</sub>, NR<sub>6</sub>R<sub>7</sub>, NHR<sub>5</sub>, N(C=O)R<sub>5</sub>, NHSO<sub>2</sub>R<sub>5</sub>, NHSO<sub>2</sub>NR<sub>5</sub>;

V and W independently are CH or N when "-----"is absent; or are C when "-----" is a bond;

```
X, Y, Z independently are O=C,
                                          CH<sub>2</sub>,
                                          CHR<sub>3</sub>,
                                          CHR<sub>4</sub>,
 5
                                          CR<sub>3</sub>R<sub>4</sub>,
                                          NR<sub>5</sub>,
                                         N(C=O)R_5,
                                         N(C=O)OR_5,
                                          NSO<sub>2</sub>R<sub>5</sub>,
10
                                          NSO<sub>2</sub>NR<sub>5</sub>,
                                          Ο,
                                          S,
                                          SO, or
                                          SO<sub>2</sub>,
                               provided that at least one of X, Y, or Z is NR<sub>5</sub>,
15
                                         N(C=O)R_5
                                         N(C=O)OR_5
                                          NSO<sub>2</sub>R<sub>5</sub>,
                                         NSO<sub>2</sub>NR<sub>5</sub>,
20
                                          0,
                                          S,
                                          SO, or
                                          SO<sub>2</sub>;
                               J, K, Q independently are CR<sub>2</sub> or N, with the proviso that when any
25
                    one of J, K, or Q is N, then the other two are CR2;
                               R<sub>1</sub> is H,
                                          (C_1-C_8)alkyl,
                                          (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
30
                                          O—(C_1-C_4)alkyl,
                                          O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,
```

S— $(C_1-C_4)$  alkyl,

S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,  $NH_2$  $NH(C_1-C_4)alkyl$ , 5  $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; R<sub>2</sub> is H, halo, 10  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, O-(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$  alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, 15  $NH_2$ , NH(C<sub>1</sub>-C<sub>4</sub>)alkyl,  $N((C_1-C_4)alkyl)_2$ , or NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; 20 R<sub>3</sub> and R<sub>4</sub> independently are halo,  $(C_1-C_8)$ alkyl, (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, O— $(C_1$ - $C_4$ )alkyl, 25 O—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, S— $(C_1-C_4)$  alkyl, S—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl, NH<sub>2</sub>,  $NH(C_1-C_4)alkyl$ , 30  $N((C_1-C_4)alkyl)_2$ , NH—(C<sub>3</sub>-C<sub>6</sub>)cycloalkyl; aryl,

 $(CH_2)_n\text{-aryl},$  heterocyclo,  $(CH_2)_n\text{-heterocyclo},$  heteroaryl, or  $(CH_2)_n\text{-heteroaryl};$  wherein n is 0, 1, 2, or 3;

### R<sub>5</sub> is H,

 $(C_1-C_8)$ alkyl,

10 (C<sub>3</sub>-C<sub>6</sub>)cycloalkyl,

aryl,

 $(CH_2)_n$ -aryl,

heterocyclo,

(CH<sub>2</sub>)<sub>n</sub>-heterocyclo,

heteroaryl, or

15

20

(CH<sub>2</sub>)<sub>n</sub>-heteroaryl;

wherein n is as defined above.

39. The compound of claim 38, wherein is as defined in claim 2.

40. The compound of claim 38 as designated in formula VA.

25 41. The compound of claim 38 as designated in formula VB.

42. The compound of claim 38 as designated in formula VC.

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43. The compound of claim 38 as designated in formula VD

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wherein  $J_a$  is N or  $CR_{10}$ , wherein  $R_{10}$  is H or F.and wherein only one or two of X, Y, or Z is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

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44. The compound of claim 38 as designated in formula IIE, wherein only one or two of X, Y, or Z is  $NR_5$ ,  $N(C=O)R_5$ ,  $N(C=O)OR_5$ ,  $NSO_2R_5$ ,  $NSO_2NR_5$ , O, S, SO, or  $SO_2$ .

- 45. The compound of claim 38 as designated in formula VF, wherein  $X_a$  is
- 5 NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>..

46. The compound of claim 38 as designated in formula VG, wherein Y<sub>a</sub> is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

47. The compound of claim 38 as designated in formula VH, wherein  $Z_a$  is NR<sub>5</sub>, N(C=O)R<sub>5</sub>, N(C=O)OR<sub>5</sub>, NSO<sub>2</sub>R<sub>5</sub>, NSO<sub>2</sub>NR<sub>5</sub>, O, S, SO, or SO<sub>2</sub>.

#### VH

49. A compound which is:

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- (S)-N-[3-(4,5-Dihydro-2H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(2-Methyl-4,5-dihydro-2H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(1-Methyl-4,5-dihydro-1H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- 10 (S)-N-[3-(2-Ethyl-4,5-dihydro-2H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(1-Ethyl-4,5-dihydro-1H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(2-Benzyl-4,5-dihydro-2H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(1-Benzyl-4,5-dihydro-1H-6-oxa-1,2-diaza-benzo[e] azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[2-Oxo-3-(2-phenethyl-4,5-dihydro-2H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[2-Oxo-3-(1-phenethyl-4,5-dihydro-1H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-oxazolidin-5-ylmethyl]-acetamide;
    - (S)-N-[2-Oxo-3-(3-phenyl-4,5-dihydro-2H-6-oxa-1,2-diaza-benzo[e]azulen-8-yl)-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(2,6-Dihydro-4H-5-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
    - (S)-N-[3-(5,6-Dihydro-2H-4-oxa-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
    - (S)-N-[2-Oxo-3-(2,4,5,6-tetrahydro-1,2,6-triaza-benzo[e]azulen-8-yl)-oxazolidin-5-ylmethyl]-acetamide;
- 30 (S)-N-[2-Oxo-3-(2,4,5,6-tetrahydro-1,2,5-triaza-benzo[e]azulen-8-yl)-oxazolidin-5-ylmethyl]-acetamide;

- (S)-N-[2-Oxo-3-(2,4,5,6-tetrahydro-1,2,4-triaza-benzo[e]azulen-8-yl)-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(4,5-Dihydro-2H-6-thia-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- 5 (S)-N-[3-(2,6-Dihydro-4H-5-thia-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(5,6-Dihydro-2H-4-thia-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(6,6-Dioxo-2,4,5,6-tetrahydro-6l6-thia-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(5,5-Dioxo-2,4,5,6-tetrahydro-5l6-thia-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(4,4-Dioxo-2,4,5,6-tetrahydro-4l6-thia-1,2-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- 15 (S)-N-[3-(4,5-Dihydro-1,6-dioxa-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(4H,6H-1,5-Dioxa-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(5,6-Dihydro-1,4-dioxa-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;

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- (S)-N-[3-(5,6-Dihydro-4H-1-oxa-2,6-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(5,6-Dihydro-4H-1-oxa-2,5-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- 25 (S)-N-[3-(5,6-Dihydro-4H-1-oxa-2,4-diaza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(4,5-Dihydro-1-oxa-6-thia-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(4H,6H-1-Oxa-5-thia-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
  - (S)-N-[3-(5,6-Dihydro-1-oxa-4-thia-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;

- (S)-N-[3-(4,5-Dihydro-1-oxa-6-thia-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide;
- (S)-N-[3-(5,5-Dioxo-5,6-dihydro-4H-1-oxa-5l6-thia-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide; or
- 5 (S)-N-[3-(5,6-Dihydro-1-oxa-4-thia-2-aza-benzo[e]azulen-8-yl)-2-oxo-oxazolidin-5-ylmethyl]-acetamide.
  - 50. A pharmaceutical formulation comprising a compound of claim 1 admixed with a pharmaceutically acceptable diluent, carrier, or excipient.

51. A method of treating a bacterial infection in a mammal, comprising administering to a mammal in need thereof an effective amount of a compound of claim 1.

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